

EARTHQUAKE ACTIVITY IN THE YELLOWSTONE REGION

Preliminary Epicenters

April 1 – June 30, 2025

Prepared by the University of Utah Seismograph Stations and funded by
the U.S. Geological Survey (Cooperative Agreement No. G21AC10068)

October 1, 2025

Foreword and Data Explanation

This report contains an epicenter map (Figure 1) and listings of earthquakes (Tables 1 and 2) detected and located in the Yellowstone region (lat. 44° 00' – 45° 10' N, long. 109° 45' – 111° 30' W). The computer program HYPOINVERSE-2000 (F. W. Klein, 2012, U.S. Geological Survey Open-File Report 02-171 revised) was used to process the earthquake data. This report also includes maps and a table of operating seismograph stations in the University of Utah's Yellowstone seismic network (Figure 2, Table 3).

The earthquake listing in Table 2 is estimated to be systematically complete above magnitude 1.5 within Yellowstone. *These data are preliminary—both the locations and magnitudes in this table are subject to revision.*

The following data are listed for each earthquake in Table 2:

- Date (yyymmdd) and origin time in Coordinated Universal Time (UTC). To convert to local time, subtract seven hours for Mountain Standard Time (MST) and six hours for Mountain Daylight Time (MDT). During the report period, local time was MDT.
- Earthquake location coordinates in degrees and minutes of north latitude and west longitude, and depth in kilometers below sea level. Note that prior to October 1, 2012, the earthquake depths in these quarterly reports were computed relative to a datum of 2000 m above sea level.
- "*" indicates poor depth resolution: no recording stations within 10 km or twice the depth.
- MAG, the computed Richter local magnitude (M_L) for each earthquake. "W" indicates that peak amplitude measurements from Wood-Anderson records were used. Otherwise, the estimate is calculated from signal durations and is more correctly identified as coda magnitude (M_C). The notation "--" indicates that a reliable magnitude estimate could not be made.
- NO, the number of P and S readings used in the solution.
- GAP, the largest azimuthal separation in degrees between recording stations used in the solution.
- DMN, the epicentral distance in kilometers to the closest station.
- RMS, the weighted root-mean-square of the travel-time residuals in seconds:

$$RMS = \left(\frac{\sum_i (W_i R_i)^2}{\sum_i (W_i)^2} \right)^{\frac{1}{2}}$$

where: R_i is the observed minus the computed arrival time for the i -th P or S reading, and W_i is the relative weight given to the i -th P or S arrival time (0.0 for no weight through 1.0 for full weight).

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April 1 – June 30, 2025

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During the three-month period April 1 through June 30, 2025, the University of Utah Seismograph Stations (UUSS) located 214 earthquakes within the Yellowstone region (Figure 1). The total includes 11 earthquakes in the magnitude 2 range. The largest event to occur during this period was a magnitude 2.7 earthquake on June 4. One earthquake was reported felt in the region during the report period (see Table 1, a cumulative tabulation of earthquakes that were felt in the Yellowstone region during 2025). Additional information on earthquakes within the Yellowstone region is available from the University of Utah Seismograph Stations.

Online Information

A complete copy of this report, including maps and the earthquake catalog, is available on the UUSS web site at <https://quake.utah.edu/earthquake-center/quarterly-seismicity-reports>.

For earthquakes of magnitude 3 and larger in the Yellowstone region, the U. S. Geological Survey automatically posts a Community Internet Intensity Map (CIIM) on its "Did You Feel It?" web page at <http://earthquake.usgs.gov/earthquakes/dyfi/>. We encourage anyone who feels an earthquake to report their observations on this interactive web site; felt information is available by zip code on the CIIM site or can be obtained from UUSS directly.

Earthquakes of Magnitude 3.0 or Larger

None

Notable Swarm Seismicity

During the report period, there were three earthquake swarms in the Yellowstone region. For reporting purposes, we use the Mogi definition [Mogi, 1963] of a swarm and require each swarm to have ten or more earthquakes. Note that typically, around 50% of Yellowstone earthquakes occur as part of a seismic swarm [Farrell et al., 2009].

- A. A swarm of 37 earthquakes ($0.1 \leq M \leq 1.8$) occurred about 4.3 mi N of West Yellowstone, MT on May 7th.
- B. A swarm of 29 earthquakes ($0.6 \leq M \leq 2.1$) occurred about 4.7 mi NE of West Yellowstone, MT from May 12th – 19th.
- C. A swarm of 11 earthquakes ($0.6 \leq M \leq 1.6$) occurred about 7.2 mi SE of Madison Junction, YNP on June 2nd.

These swarms are labeled in Figure 1.

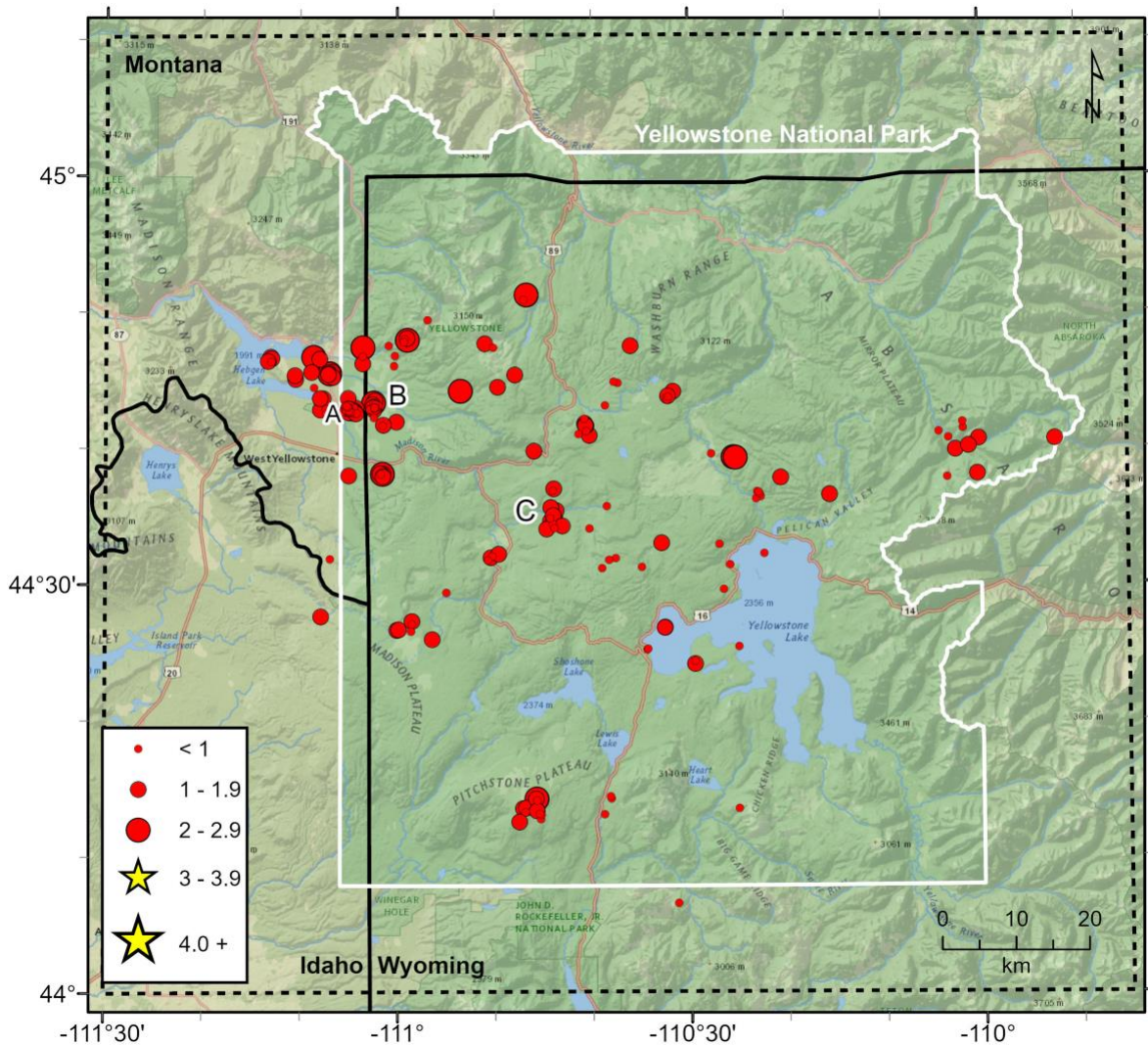


Figure 1. Epicenters of earthquakes located by the University of Utah Seismograph Stations, April 1, 2025, through June 30, 2025. Earthquake swarms (labeled A–C) are discussed in the text.

Table 1
EARTHQUAKES FELT IN THE YELLOWSTONE REGION
January 1, 2025, to June 30, 2025

Date	Time†	Felt Information‡	Latitude	Longitude	Magnitude§
January 29 January 28	00:59 UTC 17:59 MST	Yellowstone. Felt (V) at Yellowstone National Park.	44° 45.94'	110° 46.26'	M _L 3.7
June 4	20:50 UTC 14:50 MDT	Yellowstone. Felt (III) at Yellowstone National Park.	44° 46.74'	111° 08.63'	M _L 2.7

† Times are listed both as Local Time—Mountain Standard Time (MST) or Mountain Daylight Time (MDT)—and as Coordinated Universal Time (UTC).

? Indicates on-line reports that appear questionable given the distance from the source

‡ *CIIM* indicates the availability of a Community Internet Intensity Map

(<http://earthquake.usgs.gov/earthquakes/dyfi>), compiled by the U.S. Geological Survey (USGS); *ShakeMap* indicates the availability of computer-generated maps of ground-shaking (<https://quake.utah.edu>), produced by the University of Utah Seismograph Stations (UUSS). Roman numerals correspond to the Modified Mercalli intensity scale. Unless otherwise indicated, felt information is from the USGS (1) CIIM reports and/or (2) PDE Monthly (or) Weekly Listing Files (<http://earthquake.usgs.gov/data/pde.php>).

§ Richter local magnitude (M_L) or coda magnitude (M_C) determined by UUSS. If labeled “NEIC,” data are from the National Earthquake Information Center of the USGS.

Yellowstone Seismic Network

June 30, 2025

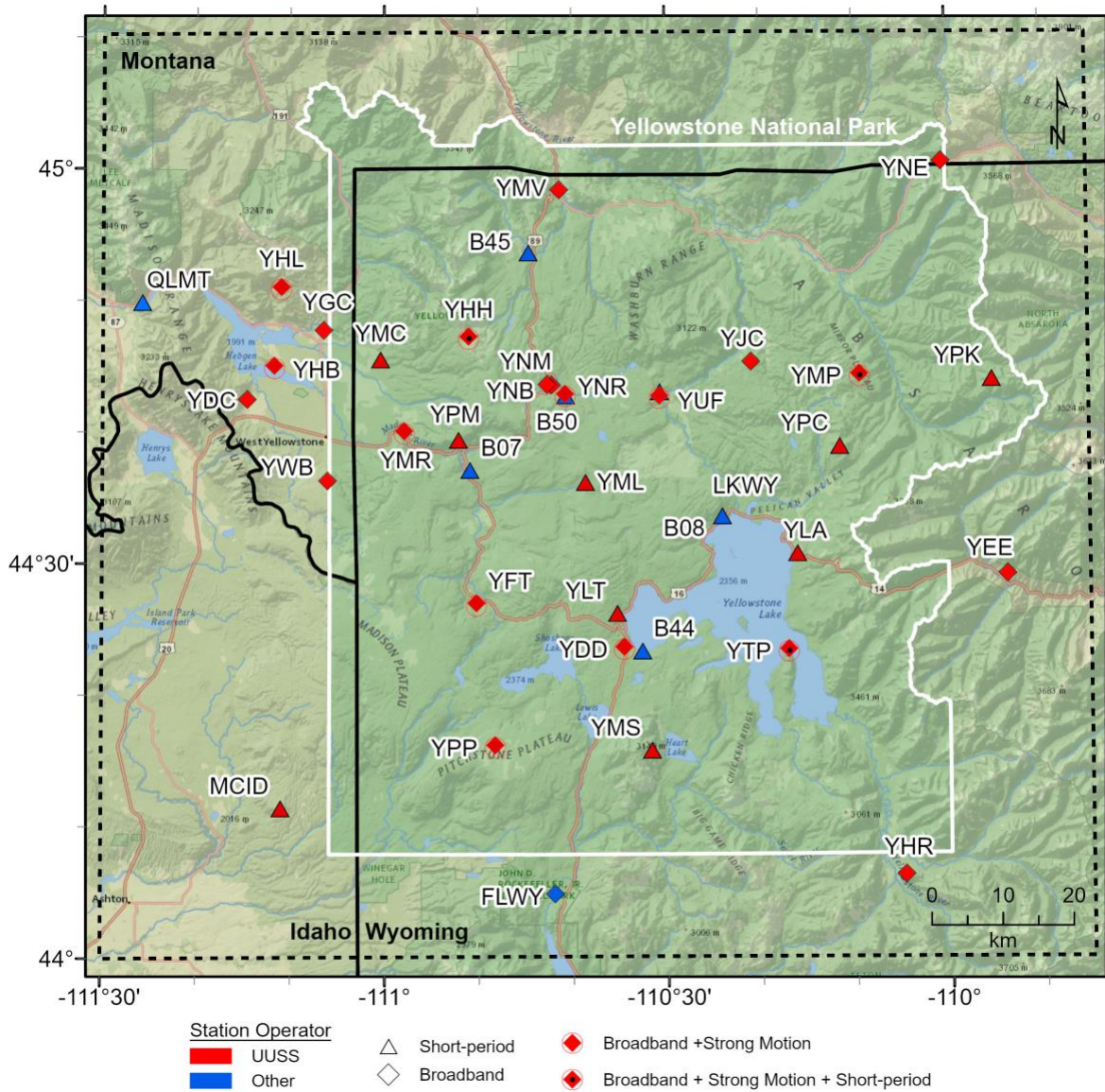


Figure 2. Seismograph stations of the Yellowstone Seismic Network as of June 30, 2025.

Table 2. Earthquakes in the Yellowstone Region: April 1–June 30, 2025

DATE	ORIGIN TIME	LATITUDE	LONGITUDE	DEPTH	MAG	NO	GAP	DMN	RMS
250401	21:06:40.29	44°13.20'	110°38.83'	9.3	0.7	15	115	11	0.17
250403	00:58:05.08	44°34.20'	110°43.89'	7.2	0.7W	23	65	8	0.16
250403	02:06:04.86	44°44.22'	110°31.67'	7.7	1.7W	31	78	3	0.18
250403	02:26:26.46	44°43.74'	110°32.37'	6.1	0.9	21	101	3	0.17
250403	03:00:32.14	44°43.59'	110°32.27'	6.2	0.8	17	100	2	0.11
250403	05:30:11.77	44°43.82'	110°32.15'	5.7	0.8	15	103	2	0.12
250403	05:39:15.44	44°43.88'	110°32.22'	5.8	1.0	17	102	3	0.11
250403	08:50:59.98	44°39.64'	110°27.77'	4.8	0.9	23	96	7	0.15
250405	08:39:33.35	44°14.36'	110°38.13'	6.4	0.8	11	118	9	0.10
250405	08:43:22.72	44°14.52'	110°38.21'	6.5	0.7	11	116	9	0.10
250406	05:51:41.70	44°26.76'	110°59.89'	4.3*	1.2W	11	151	13	0.10
250406	06:35:01.03	44°26.72'	111°00.08'	5.1*	1.2W	15	120	13	0.15
250412	08:33:51.60	44°42.94'	111°07.37'	10.7	0.7W	23	81	7	0.14
250412	08:41:18.87	44°42.61'	111°07.35'	8.9	0.6	20	85	7	0.14
250415	12:53:39.50	44°26.91'	110°32.57'	2.0	1.2	10	131	4	0.14
250415	12:54:03.42	44°26.90'	110°32.59'	2.1	1.0	9	131	4	0.12
250418	01:28:04.44	44°06.67'	110°31.31'	4.0*	0.8	12	156	17	0.11
250418	04:15:47.71	44°39.86'	110°45.98'	7.8	1.1W	20	92	8	0.13
250418	04:52:48.89	44°47.58'	111°00.90'	7.9	0.8W	12	115	4	0.08
250418	14:43:12.13	44°13.61'	110°25.07'	8.9	0.4	7	200	10	0.06
250418	16:28:19.77	44°29.70'	110°26.54'	2.0	0.5	8	83	8	0.05
250421	12:35:43.86	44°37.84'	110°03.52'	13.8	0.2	9	127	16	0.08
250424	01:41:49.26	44°25.34'	110°34.33'	2.5	0.5	13	93	2	0.12
250424	01:42:14.35	44°25.29'	110°34.40'	2.9	0.6	12	95	2	0.18
250424	04:23:20.78	44°33.00'	110°26.96'	2.0	0.4	16	88	4	0.15
250425	05:48:29.38	44°40.73'	110°03.38'	12.4	0.4	10	89	10	0.20
250425	11:11:50.92	44°45.12'	111°10.48'	7.8	1.4W	21	63	2	0.17
250425	11:20:11.07	44°45.40'	111°10.55'	7.7	1.3W	20	68	2	0.18
250426	16:22:50.18	44°31.26'	110°39.02'	4.0	0.8	13	69	9	0.10
250427	15:49:12.13	44°49.47'	110°56.90'	7.9	0.7	13	130	9	0.09
250427	17:10:47.60	44°40.60'	109°52.42'	8.7	1.8	6	142	7	0.06
250428	06:57:42.06	44°32.31'	110°22.36'	1.6	0.8	8	105	3	0.05
250428	08:51:35.80	44°41.88'	110°01.91'	15.6	0.7	8	89	9	0.09
250428	17:29:08.50	44°31.34'	110°34.94'	2.5	0.8	10	105	9	0.12
250429	04:12:01.81	44°27.37'	110°58.52'	4.3*	1.1W	14	146	11	0.13
250429	04:50:57.14	44°46.65'	111°12.93'	11.8	1.6W	24	67	3	0.16
250429	05:13:10.31	44°46.40'	111°12.99'	10.7	0.7W	18	96	3	0.12
250429	05:22:19.30	44°29.47'	110°54.99'	4.6	0.8W	17	99	8	0.20
250429	19:36:11.71	44°46.74'	111°13.05'	11.6	1.7W	20	69	4	0.13
250430	07:29:22.40	44°44.85'	110°37.35'	4.5	0.7	11	174	7	0.11
250430	07:30:12.61	44°44.94'	110°37.77'	4.6	0.5	14	98	6	0.14
250430	12:08:49.78	44°35.81'	110°38.50'	5.1	0.4	14	65	1	0.10
250501	01:37:39.38	44°42.88'	111°07.93'	14.5	1.7W	24	83	6	0.11
250501	08:50:45.96	44°40.12'	110°01.30'	12.8	1.0	9	105	11	0.13
250502	11:47:19.72	44°46.44'	111°13.31'	11.3	1.4W	18	99	3	0.11

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DATE	ORIGIN TIME	LATITUDE	LONGITUDE	DEPTH	MAG	NO	GAP	DMN	RMS
250503	00:47:29.87	44°31.50′	110°25.88′	2.2	0.8	10	92	5	0.08
250507	07:46:33.54	44°42.89′	111°04.70′	10.5	0.8W	18	79	8	0.16
250507	07:58:15.35	44°42.78′	111°04.59′	10.3	0.8W	17	79	8	0.15
250507	08:01:57.09	44°42.74′	111°04.78′	9.6	0.5W	17	80	8	0.16
250507	09:19:09.08	44°42.89′	111°05.08′	10.4	0.8W	17	80	8	0.14
250507	09:42:21.69	44°42.73′	111°04.82′	9.7	1.2W	19	80	8	0.15
250507	09:50:00.35	44°42.82′	111°05.21′	9.5	0.5W	17	80	8	0.16
250507	09:51:53.39	44°42.78′	111°05.02′	9.8	0.9W	21	81	8	0.15
250507	09:57:37.41	44°42.67′	111°04.87′	10.0	1.1W	21	82	8	0.15
250507	10:02:47.10	44°42.88′	111°04.66′	10.8	1.0W	20	79	8	0.15
250507	10:16:08.13	44°42.82′	111°05.09′	9.6	0.8W	18	80	8	0.17
250507	10:22:12.64	44°42.84′	111°05.04′	10.5	1.6W	25	80	8	0.14
250507	10:24:35.66	44°42.75′	111°05.13′	9.6	0.8W	17	81	8	0.16
250507	10:31:41.07	44°42.86′	111°05.27′	8.9	0.4W	18	80	8	0.15
250507	10:51:26.09	44°42.83′	111°05.19′	9.7	0.5W	17	80	8	0.16
250507	10:53:29.86	44°43.20′	111°05.35′	9.8	0.3W	16	83	8	0.15
250507	10:53:58.35	44°42.95′	111°04.87′	9.9	0.9W	21	79	8	0.14
250507	10:54:32.52	44°42.93′	111°05.31′	9.4	0.6W	18	79	8	0.16
250507	10:59:40.06	44°42.93′	111°04.88′	9.9	0.8W	18	79	8	0.15
250507	11:00:48.64	44°43.04′	111°04.98′	8.1	0.3W	12	80	8	0.14
250507	11:14:38.24	44°42.81′	111°04.98′	9.5	0.3W	19	80	8	0.18
250507	11:14:50.70	44°42.68′	111°04.98′	9.4	1.0W	19	82	8	0.17
250507	11:17:43.47	44°42.98′	111°04.93′	10.3	1.5W	30	79	8	0.16
250507	11:20:29.51	44°42.97′	111°05.06′	11.0	1.0W	19	79	8	0.13
250507	11:20:57.93	44°43.73′	111°05.07′	4.9	1.2W	11	114	7	0.16
250507	11:21:20.45	44°42.85′	111°04.91′	10.8	1.1W	18	80	8	0.12
250507	11:23:43.05	44°42.93′	111°05.36′	10.2	0.4W	15	79	8	0.11
250507	11:30:25.03	44°42.91′	111°05.24′	10.6	0.8W	14	80	8	0.12
250507	11:35:59.64	44°42.84′	111°05.00′	10.9	1.8W	19	80	8	0.12
250507	11:39:26.54	44°42.92′	111°04.93′	11.3	1.3W	18	80	8	0.14
250507	11:47:49.74	44°42.85′	111°04.93′	10.2	0.9W	16	80	8	0.11
250507	12:30:54.55	44°43.16′	111°05.21′	9.4	0.1	10	82	8	0.10
250507	12:31:19.28	44°43.09′	111°05.07′	10.4	0.3W	12	80	8	0.09
250507	13:52:58.14	44°42.85′	111°04.81′	10.2	1.3W	18	79	8	0.14
250507	14:20:51.58	44°43.02′	111°04.46′	12.3	0.6W	11	77	7	0.09
250507	14:32:14.19	44°42.94′	111°04.90′	11.1	1.6W	15	79	8	0.10
250507	15:50:43.02	44°27.71′	111°07.88′	12.4	1.5W	19	118	16	0.18
250507	16:01:34.26	44°42.95′	111°05.14′	10.8	0.7	14	79	8	0.12
250507	16:18:09.00	44°42.86′	111°04.61′	10.8	1.3W	17	79	8	0.13
250509	14:40:52.02	44°47.57′	110°36.04′	3.7*	1.3W	19	81	11	0.14
250509	15:48:38.81	44°39.85′	110°02.65′	15.8	1.4	10	101	12	0.22
250510	05:39:55.80	44°44.55′	110°49.69′	8.3	1.2W	25	95	9	0.13
250510	14:06:21.26	44°43.71′	111°07.65′	7.7	1.6W	23	76	6	0.13
250510	17:17:16.25	44°38.18′	111°01.55′	11.4	2.1W	22	55	6	0.16
250510	17:20:03.00	44°38.15′	111°01.67′	11.4	1.9W	24	56	6	0.15

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DATE	ORIGIN TIME	LATITUDE	LONGITUDE	DEPTH	MAG	NO	GAP	DMN	RMS
250510	17:40:37.44	44°37.99'	111°01.50'	10.6	1.4W	22	53	6	0.16
250510	18:04:49.95	44°38.16'	111°01.71'	9.5	0.5W	14	57	6	0.11
250511	09:20:35.59	44°43.72'	111°07.94'	9.0	1.5W	21	73	6	0.15
250512	23:35:09.12	44°43.04'	111°02.24'	5.3	0.7	15	84	5	0.11
250513	00:28:03.95	44°38.19'	111°01.47'	11.8	1.9W	28	55	6	0.18
250514	03:50:41.02	44°43.26'	111°02.28'	7.2	0.9W	16	68	5	0.12
250514	03:51:41.73	44°43.09'	111°02.48'	5.7	1.0W	19	67	5	0.15
250514	05:04:11.72	44°38.21'	111°01.79'	12.0	1.4W	18	57	6	0.14
250514	06:09:34.68	44°34.17'	110°40.30'	6.4	0.7W	15	80	5	0.12
250514	09:00:13.87	44°43.30'	111°02.30'	6.6	0.8W	15	64	5	0.13
250515	00:00:52.79	44°46.85'	111°00.27'	1.8	0.3	8	243	2	0.02
250515	00:04:07.02	44°48.00'	110°58.98'	9.5	2.2W	23	134	5	0.12
250515	02:22:08.65	44°48.14'	110°59.01'	9.7	1.5W	16	143	5	0.12
250515	09:43:08.53	44°47.86'	110°59.35'	8.9	0.4	12	140	4	0.09
250515	11:28:50.72	44°46.10'	111°00.35'	6.8	0.6W	13	123	1	0.12
250515	13:41:03.98	44°44.26'	110°53.53'	10.1	2.0W	21	99	9	0.08
250515	22:21:43.91	44°42.92'	111°02.85'	2.6	0.6	9	81	6	0.07
250515	22:21:51.44	44°41.00'	110°40.28'	8.1	1.1	8	100	5	0.07
250515	22:45:43.81	44°41.71'	110°40.62'	7.6	1.0	12	106	4	0.09
250515	23:44:11.20	44°42.89'	111°02.43'	6.0	1.0W	12	82	6	0.09
250516	01:04:53.34	44°41.10'	110°41.39'	2.1	0.8	7	101	5	0.21
250516	01:04:53.49	44°43.05'	111°02.36'	4.7	0.6	7	103	5	0.08
250516	01:05:03.72	44°43.06'	111°02.42'	4.8	0.8	7	102	5	0.08
250516	01:31:50.52	44°41.74'	110°40.67'	7.3	1.0	13	105	4	0.11
250516	01:40:28.87	44°43.20'	111°01.97'	6.2	0.8W	14	87	5	0.10
250516	01:41:03.16	44°41.77'	110°40.73'	6.9	1.3W	14	105	4	0.09
250516	04:21:09.06	44°43.56'	111°02.32'	9.9	1.7W	21	63	5	0.17
250516	06:04:34.49	44°43.40'	111°02.46'	7.9	2.1W	21	66	5	0.11
250516	07:06:54.16	44°43.27'	111°02.55'	7.4	1.4W	16	67	5	0.12
250516	07:16:31.45	44°43.35'	111°02.48'	6.3	0.8W	12	109	5	0.09
250516	07:18:21.63	44°41.33'	110°40.60'	5.3	0.9	10	100	5	0.12
250516	07:18:42.93	44°43.08'	111°02.35'	6.0	0.7W	12	82	5	0.09
250516	08:36:27.48	44°41.88'	110°40.76'	7.9	1.4W	16	107	4	0.10
250516	08:40:56.58	44°31.93'	111°06.95'	8.5	0.5W	11	146	8	0.12
250516	09:22:09.64	44°42.99'	111°02.35'	5.4	0.6W	16	83	5	0.10
250516	12:22:11.03	44°42.22'	110°40.80'	7.7	0.7	15	113	3	0.08
250516	18:29:14.71	44°46.61'	111°08.00'	7.9	1.9W	24	119	3	0.13
250516	19:05:08.56	44°43.02'	111°02.75'	4.8	0.9W	15	78	6	0.13
250517	16:29:56.43	44°43.03'	111°02.58'	5.0	0.7W	13	80	6	0.11
250517	20:19:46.68	44°43.05'	111°02.56'	4.9	0.9W	17	80	5	0.13
250518	13:14:47.69	44°42.78'	111°04.40'	9.9	1.2W	18	78	7	0.17
250518	13:15:32.82	44°42.61'	111°04.42'	7.1	0.9W	14	79	8	0.14
250518	13:16:46.93	44°42.66'	111°04.56'	8.0	1.1W	16	80	8	0.15
250518	13:46:56.23	44°42.87'	111°04.32'	10.2	1.5W	18	77	7	0.18
250518	13:51:43.36	44°43.01'	111°04.23'	9.8	1.5W	22	75	7	0.19

Table 2. Earthquakes in the Yellowstone Region: April 1–June 30, 2025

DATE	ORIGIN TIME	LATITUDE	LONGITUDE	DEPTH	MAG	NO	GAP	DMN	RMS
250518	13:52:49.00	44°42.61′	111°04.27′	8.1	1.0W	16	78	8	0.15
250518	14:12:07.34	44°42.68′	111°04.59′	8.9	1.2W	17	80	8	0.15
250518	14:41:40.11	44°42.80′	111°04.71′	9.9	1.6W	19	80	8	0.16
250518	14:58:25.91	44°42.70′	111°04.39′	8.1	0.7W	12	79	8	0.14
250519	07:37:33.10	44°42.63′	111°04.19′	8.9	0.6W	13	78	7	0.15
250519	09:14:30.53	44°42.00′	111°00.12′	7.2	1.0W	22	57	5	0.16
250519	21:10:52.72	44°24.23′	110°29.49′	2.1	0.9	8	122	4	0.17
250519	21:16:26.55	44°24.43′	110°29.49′	2.1	0.8	10	144	5	0.16
250523	00:56:26.98	44°46.28′	111°03.58′	6.3	1.0W	13	160	4	0.11
250524	09:43:44.45	44°51.32′	110°46.74′	10.1	2.0W	27	120	5	0.13
250524	10:19:35.97	44°50.96′	110°47.01′	7.8	0.9	21	130	6	0.16
250527	00:39:24.72	44°39.37′	110°25.50′	5.5	2.7W	31	76	9	0.13
250527	01:10:53.81	44°39.35′	110°25.29′	5.2	2.2W	33	57	10	0.12
250527	11:44:35.16	44°36.61′	110°15.62′	6.4	1.3W	11	155	11	0.07
250527	17:36:10.55	44°33.10′	110°32.90′	2.3*	1.5W	11	124	12	0.15
250528	16:24:12.16	44°46.80′	111°03.57′	8.2	0.9W	17	126	4	0.17
250530	04:01:29.47	44°13.24′	110°45.43′	1.6	0.5	10	133	7	0.17
250530	07:05:34.57	44°48.07′	110°59.25′	9.1	0.6W	12	143	5	0.09
250530	07:30:54.05	44°13.17′	110°45.28′	0.9	0.8	9	133	7	0.11
250530	09:06:25.29	44°36.69′	110°22.80′	2.2	0.6	9	133	6	0.13
250530	15:49:56.42	44°36.84′	110°23.06′	1.5	0.7	9	130	6	0.09
250530	15:50:13.57	44°36.33′	110°23.17′	3.9	0.7	10	87	5	0.10
250530	15:52:22.35	44°36.48′	110°22.69′	4.2	0.8	10	90	6	0.08
250530	15:54:23.92	44°36.81′	110°22.91′	2.1	0.5	8	132	6	0.09
250602	19:11:09.37	44°35.13′	110°44.01′	5.5	1.2	12	120	8	0.12
250602	19:15:25.69	44°37.09′	110°43.95′	2.0	1.4	8	155	7	0.10
250602	19:15:52.56	44°36.95′	110°44.05′	4.1	0.9	9	152	7	0.09
250602	19:16:07.48	44°34.94′	110°44.34′	5.0	0.6	10	118	8	0.06
250602	19:16:19.71	44°35.04′	110°43.89′	7.8	1.6	14	119	7	0.11
250602	19:17:01.27	44°34.49′	110°44.03′	6.7	0.9	8	147	8	0.07
250602	19:18:41.12	44°34.36′	110°43.08′	5.6	1.1	7	109	7	0.06
250602	19:18:50.69	44°34.73′	110°44.29′	4.9	1.4	9	117	8	0.04
250602	19:35:06.61	44°34.54′	110°44.06′	5.1	1.2	8	146	8	0.06
250602	20:00:37.60	44°35.72′	110°44.25′	4.8	1.3	8	130	8	0.11
250602	20:10:09.90	44°35.49′	110°43.71′	7.8	1.3W	23	65	7	0.14
250602	21:13:22.99	44°47.46′	111°03.56′	10.1	2.2W	30	81	4	0.12
250604	10:54:01.06	44°13.36′	110°46.90′	1.2	0.8	12	91	6	0.16
250604	13:59:35.72	44°13.68′	110°46.85′	2.4	1.3	15	73	5	0.14
250604	16:57:04.36	44°13.63′	110°47.15′	1.4	1.5	14	121	5	0.16
250604	20:50:46.23	44°46.74′	111°08.63′	11.4	2.7W	27	79	4	0.12
250605	01:22:49.09	44°45.64′	111°08.84′	11.1	1.6W	21	109	4	0.17
250605	10:35:22.60	44°37.87′	110°20.62′	2.1	1.3	14	84	9	0.17
250605	22:23:29.49	44°44.50′	111°08.58′	10.2	0.2	10	101	4	0.15
250606	08:56:15.16	44°41.41′	110°01.86′	14.1	0.8	10	93	10	0.16
250606	09:51:16.99	44°45.54′	111°06.96′	11.7	2.2W	29	82	4	0.16

Table 2. Earthquakes in the Yellowstone Region: April 1–June 30, 2025

DATE	ORIGIN TIME	LATITUDE	LONGITUDE	DEPTH	MAG	NO	GAP	DMN	RMS
250606	09:51:57.96	44°45.28'	111°06.64'	10.9	1.3	19	75	5	0.17
250606	18:18:55.65	44°40.65'	110°00.25'	14.7	1.7	13	109	9	0.16
250607	19:10:13.93	44°45.66'	111°06.70'	11.2	1.6W	22	59	4	0.16
250613	09:34:16.95	44°12.66'	110°47.53'	-0.2	1.2	9	93	7	0.04
250613	09:45:40.10	44°14.35'	110°45.83'	2.1	1.3W	11	180	5	0.10
250613	10:10:38.97	44°12.86'	110°45.35'	0.9	0.9	10	106	7	0.18
250613	10:12:55.32	44°14.34'	110°45.76'	2.0	2.3W	13	180	5	0.14
250613	10:24:42.19	44°14.23'	110°45.73'	2.8	0.6	9	129	5	0.10
250613	10:59:10.53	44°43.20'	110°38.65'	5.0	0.9	15	161	5	0.11
250613	16:18:35.71	44°45.63'	111°07.10'	11.9	1.5W	19	55	4	0.09
250613	19:59:02.06	44°45.48'	111°07.10'	11.1	1.0W	14	109	4	0.10
250615	04:17:18.83	44°13.47'	110°45.74'	3.0	1.1	12	106	6	0.13
250616	14:54:57.54	44°26.63'	110°58.62'	7.7	0.6	6	146	11	0.12
250616	17:41:06.59	44°45.52'	111°07.09'	11.8	1.4W	17	83	4	0.09
250618	06:59:14.46	44°27.15'	110°58.54'	2.5*	0.9	9	185	11	0.16
250619	01:37:26.21	44°47.74'	110°51.01'	4.9*	1.2W	19	132	13	0.10
250620	07:08:23.85	44°47.45'	110°50.16'	6.2	0.7W	22	117	12	0.11
250621	16:21:41.33	44°31.85'	110°50.70'	4.8	0.6	10	154	9	0.21
250621	16:21:51.74	44°32.05'	110°50.41'	2.5	1.1	10	150	9	0.14
250621	16:22:14.52	44°32.30'	110°49.62'	2.0	0.9	10	138	9	0.16
250621	16:23:43.92	44°32.15'	110°50.26'	2.2	0.8W	14	147	9	0.15
250622	05:41:20.70	44°42.77'	111°05.61'	11.0	0.6W	17	81	9	0.09
250623	00:25:28.09	44°26.04'	110°56.44'	4.2	1.5W	17	174	9	0.22
250623	22:25:09.54	44°25.49'	110°24.99'	6.0	0.4	7	147	11	0.07
250624	21:20:44.33	44°41.18'	110°04.36'	5.8*	0.4	6	149	13	0.16
250625	01:25:09.74	44°38.05'	111°05.01'	6.5	1.6W	25	80	3	0.17
250625	04:20:58.88	44°41.73'	111°01.52'	4.9	0.6W	18	84	6	0.14
250625	04:26:12.72	44°41.77'	111°01.46'	7.1	1.0W	23	64	6	0.17
250627	08:49:44.07	44°38.08'	110°00.40'	13.2	1.9	19	121	13	0.19
250628	10:43:37.43	44°45.45'	110°47.93'	5.0	1.1W	28	94	8	0.14
250628	17:12:51.63	44°42.30'	111°02.42'	9.1	0.6W	14	89	7	0.12
250629	01:35:12.26	44°34.14'	110°44.68'	2.2	1.0	10	107	9	0.11
250629	13:17:23.69	44°31.86'	110°38.28'	3.3	0.7	9	161	8	0.08
250629	15:10:36.01	44°31.99'	110°37.60'	6.2	0.8	12	77	8	0.14

number of earthquakes = 214

* indicates poor depth control

W indicates Wood-Anderson data used for magnitude calculation

Table 3
UNIVERSITY OF UTAH YELLOWSTONE SEISMIC NETWORK
Operating Seismograph Stations
June 30, 2025

SEED Station	Location	SEED Channel	No. of Channels	Network Code	Latitude	Longitude	Elevation (meters)	Sensor	Digitizer	Telemetry	Sponsor
B206*	Canyon206bwy2008, Yellowstone, WY	EH[ZEN]	3	PB	44° 46.66'	110° 30.70'	2400	IESE-S2	Q330	Digital	EarthScope
B207*	Madisn207bwy2007, Yellowstone, WY	EH[ZEN]	3	PB	44° 37.14'	110° 50.91'	2182	IESE-S2	Q330	Digital	EarthScope
B208*	Lakejn208bwy2008, Yellowstone, WY	EH[ZEN]	3	PB	44° 33.61'	110° 24.09'	2406	IESE-S2	Q330	Digital	EarthScope
B944*	Grantt944bwy2008, Yellowstone, WY	EH[ZEN]	3	PB	44° 23.38'	110° 32.63'	2365	IESE-S2	Q330	Digital	EarthScope
B945*	Panthr944swy2008, Yellowstone, WY	EH[ZEN]	3	PB	44° 53.64'	110° 44.65'	2249	IESE-S2	Q330	Digital	EarthScope
B950*	Norris950bwy2013, Yellowstone, WY	EH[ZEN]	3	PB	44° 42.77'	110° 40.71'	2328	IESE-S2	Q330	Digital	EarthScope
FLWY*	Flagg Ranch, WY	BH[ZEN]	3	IW	44° 04.96'	110° 41.96'	2078	3ESP	RT-130	Digital	ANSS
IMW*	Indian Meadows, WY	BH[ZEN]	3	IW	43° 53.58'	110° 56.58'	2670	3ESP	RT-130	Digital	ANSS
LKWY*	Lake, WY	BH[ZEN]	3	US	44° 33.91'	110° 24.00'	2424	STS-2	Q330	Digital	USGS
LOHW*	National Elk Refuge, WY	BH[ZEN]	3	IW	43° 36.76'	110° 36.30'	2245	3ESP	RT-130	Digital	ANSS
MCID	Moose Creek, ID	EHZ	1	WY	44° 11.45'	111° 11.03'	2137	L4C	PSN	Analog	USGS
MOOW*	Moose Ponds, WY	BH[ZEN]	3	IW	43° 44.92'	110° 44.69'	2128	3ESP	RT-130	Digital	ANSS
QLMT*	Earthquake Lake, MT	EHZ	1	MB	44° 49.84'	111° 25.80'	2064	L4C	-	Analog	MBMT
REDW*	Red-Top Meadows, WY	BH[ZEN]	3	IW	43° 21.74'	110° 51.18'	2322	3ESP	RT-130	Digital	ANSS
SNOW*	Snow King Mountain, WY	BH[ZEN]	3	IW	43° 27.75'	110° 45.31'	2390	3ESP	RT-130	Digital	ANSS
TPAW*	Teton Pass, WY	BH[ZEN]	3	IW	43° 29.41'	110° 57.04'	2512	3ESP	RT-130	Digital	ANSS
TPMT*	Teepe Creek, MT	EHZ	1	MB	44° 43.79'	111° 39.94'	2518	L4C	-	Analog	MBMT
YDC	Denny Creek, MT	HH[ZEN]	3	WY	44° 42.51'	111° 14.60'	2025	Trillium 120	Centaur	Digital	USGS
YDD	Grant Junction, Yellowstone, WY	HH[ZEN]	3	WY	44° 24.00'	110° 34.80'	2400	STS-2	Q330	Digital	USGS
		EN[ZEN]	3					Episensor			
YEE	East Entrance (YNP), WY	HH[ZEN]	3	WY	44° 29.12'	109° 53.81'	2270	Compact PH	Centaur	Digital	USGS
YFT	Old Faithful (YNP), WY	HH[ZEN]	3	WY	44° 27.05'	110° 50.24'	2292	Compact	Centaur	Digital	USGS
		EN[ZEN]	3					Titan			
YGC	Grayling Creek, MT	HH[ZEN]	3	WY	44° 47.77'	111° 06.45'	2075	Trillium 120	Centaur	Digital	USGS
YHB	Horse Butte, MT	HH[ZEN]	3	WY	44° 45.07'	111° 11.71'	2157	Compact	Centaur	Digital	USGS
		EN[ZEN]	3					Titan			
YHH	Holmes Hill (YNP), WY	EHZ	1	WY	44° 47.30'	110° 51.03'	2717	S13	PSN	Analog	USGS
		HH[ZEN]	3					Trillium 120	Centaur	Digital	
		EN[ZEN]	3					Titan			
YHL	Hebgen Lake, MT	HH[ZEN]	3	WY	44° 51.05'	111° 10.98'	2691	Trillium 120	Q330	Digital	USGS
		EN[ZEN]	3					Titan			
YHR	Hawk's Rest, WY	HH[ZEN]	3	WY	44° 06.36'	110° 04.90'	2976	Trillium 120	Q330	Digital	USGS

SEED Station	Location	SEED Channel	No. of Channels	Network Code	Latitude	Longitude	Elevation (meters)	Sensor	Digitizer	Telemetry	Sponsor
YJC	Joseph's Coat (YNP), WY	HH[ZEN]	3	WY	44° 45.33'	110° 20.95'	2684	Trillium 120	Centaur	Digital	USGS
YLA	Lake Butte (YNP), WY	EHZ	1	WY	44° 30.76'	110° 16.12'	2580	L4C	PSN	Analog	USGS
YLT	Little Thumb Creek (YNP), WY	EHZ	1	WY	44° 26.25'	110° 35.28'	2439	L4C	PSN	Analog	USGS
YMC	Maple Creek (YNP), WY	EH[ZEN]	3	WY	44° 45.53'	111° 00.41'	2073	S13	PSN	Analog	USGS
YML	Mary Lake (YNP), WY	EH[ZEN]	3	WY	44° 36.20'	110° 38.63'	2653	S13	PSN	Analog	USGS
YMP	Mirror Plateau (YNP), WY	EHZ	1	WY	44° 44.38'	110° 09.40'	2774	S13	PSN	Analog	USGS
		HH[ZEN]	3					Trillium 120	Q330	Digital	
		EN[ZEN]	3					Titan			
YMR	Madison River (YNP), WY	HH[ZEN]	3	WY	44° 40.12'	110° 57.90'	2149	Trillium 120	Q330	Digital	USGS
		EN[ZEN]	3					Titan			
YMS	Mount Sheridan (YNP), WY	EHZ	1	WY	44° 15.84'	110° 31.67'	3106	L4C	PSN	Analog	USGS
YMV	Mammoth Vault (YNP), WY	HH[ZEN]	3	WY	44° 58.42'	110° 41.33'	1829	Trillium 120	Centaur	Digital	USGS
YNB	Norris Basin (YNP), WY	HH[ZEN]	3	WY	44° 43.64'	110° 42.67'	2307	Trillium 120	Centaur	Digital	USGS
		HDF[1,2,3]	3					InfraBSU			
YNE	Northeast Entrance (YNP), WY	HH[ZEN]	3	WY	45° 00.46'	110° 00.48'	2343	Compact	Centaur	Digital	USGS
YNM	Norris Museum (YNP), WY	HH[ZEN]	3	WY	44° 43.59'	110° 42.22'	2311	Trillium 240	Centaur	Digital	USGS
YNR	Norris Junction (YNP), WY	HH[ZEN]	3	WY	44° 42.93'	110° 40.75'	2336	Trillium 120	Q330	Digital	USGS
		EN[ZEN]	3					Titan			
YPC	Pelican Cone (YNP), WY	EHZ	1	WY	44° 38.88'	110° 11.55'	2932	L4C	PSN	Analog	USGS
YPK	Parker Peak (YNP), WY	EH[ZEN]	3	WY	44° 43.91'	109° 55.32'	2897	L4C	PSN	Analog	USGS
YPM	Purple Mountain (YNP), WY	EHZ	1	WY	44° 39.43'	110° 52.12'	2582	L4C	PSN	Analog	USGS
YPP	Pitchstone Plateau (YNP), WY	HH[ZEN]	3	WY	44° 16.26'	110° 48.27'	2707	Trillium 120	Centaur	Digital	USGS
		EN[ZEN]	3					Titan			
YTP	The Promontory (YNP), WY	EHZ	1	WY	44° 23.51'	110° 17.10'	2384	L4	PSN	Analog	USGS
		HH[ZEN]	3					Trillium 120	Centaur	Digital	
		EN[ZEN]	3					Titan			
YUF	Upper Falls (YNP), WY	HH[ZEN]	3	WY	44° 42.76'	110° 30.71'	2394	Trillium 120	Centaur	Digital	USGS
		EN[ZEN]	3					Titan			
YWB	West Boundary (YNP), WY	HH[ZEN]	3	WY	44° 36.35'	111° 06.05'	2310	Trillium 120	Centaur	Digital	USGS

* Station operated by another agency and recorded as part of the Yellowstone Seismic Network
Network Statistics: 163 data channels from 46 stations were being recorded at the end of this report period

EXPLANATION OF TABLE

UURSN Code: Station code formerly used in routine processing. Owing to software limitations, the station code may not be the same code used by the original operator. For multi-component stations, the vertical, east-west, and north-south high gain (low gain) components are identified by an appended Z(V), E(L), and N(M), respectively, in UUSS phase files.

Location: General description of station location. YNP = Yellowstone National Park.

SEED Station: The SEED (Standard for the Exchange of Earthquake Data) station code used by the original operator.

SEED Channel: The SEED format uses three letters to name seismic channels. See <<http://www.fdsn.org/seed_manual/SEEDManual_V2.4.pdf>> for information about the SEED channel naming convention. Relevant sections are reproduced below. In the SEED convention, each letter describes one aspect of the instrumentation and its digitization. The first letter specifies the general sampling rate and the response band of the instrument. Band codes used in this table include:

Band Code	Band Type	Sample Rate	Corner Period
E	Extremely short period	≥ 80 Hertz	< 10 seconds
H	High broadband	≥ 80 Hertz	≥ 10 seconds
B	Broadband	≥ 10 to < 80 Hertz	≥ 10 seconds
S	Short period	≥ 10 to < 80 Hertz	< 10 seconds

The second letter specifies the family to which the sensor belongs. Sensor families used in this table are:

Instrument Code	Description
H	High gain seismometer
L	Low gain seismometer
N	Accelerometer

The third letter specifies the physical configuration of the members of a multiple axis instrument package. Channel orientations used in this table are:

Z E N Traditional (Vertical, East-West, North-South)

Number of Channels: Total number of waveform channels recorded.

Network Code: The FDSN (Federation of Digital Seismographic Networks) registered network code. See <<<https://www.fdsn.org/networks/>>> for information about registered seismograph network codes. Network codes referenced in this table:

Network Code	Network name; Network operator or responsible organization
IE	Idaho National Laboratory Seismic Network
IU	IRIS/USGS Network; USGS Albuquerque Seismological Laboratory
IW	Intermountain West Network, U.S. Geological Survey
MB	Montana Regional Seismic Network; Montana Bureau of Mines and Geology

PB	Plate Boundary Observatory (EarthScope Consortium)
UU	University of Utah Regional Network; University of Utah
US	US National Network; USGS National Earthquake Information Center
WY	Yellowstone Wyoming Seismic Network; University of Utah

Latitude, Longitude: Sensor location in degrees and decimal minutes; North latitude, West longitude.

Elevation: Sensor altitude in meters above sea level.

Sensor	Description
L4, L4C	Mark Products L4 or L4C short-period seismometer
S13, 18300	Geotech S13 or 18300 short-period seismometer
Ranger	Kinematics Ranger short-period seismometer
40T	Guralp CMG-40T broadband seismometer
3T	Guralp CMG-3T broadband seismometer
3ESP	Guralp CMG-3ESP broadband seismometer
STS-2	Streckheisen STS-2 broadband seismometer
FBA23	Kinematics FBA-23 accelerometer
EpiSensor	Kinematics EpiSensor accelerometer
Applied Mems	Applied Mems accelerometer
PA-23	Geotech PA-23 accelerometer
Compact	Nanometrics Compact broadband seismometer
Compact PH	Nanometrics Compact Posthole broadband seismometer
Trillium 120	Nanometrics Trillium 120 broadband seismometer
Trillium 240	Nanometrics Trillium 240 broadband seismometer
Titan	Nanometrics Titan accelerometer
Observer	Refraction Technology (REF TEK) Model 151 Observer broadband seismometer
IESE-S2	Institute of Earth Science and Engineering S-2 model borehole seismometer

Digitizer	Description
K2	Kinematics Altus Series K2 (19-bit resolution field digitizer)
Etna	Kinematics Altus Series Etna (18-bit resolution field digitizer)
72A-07	Refraction Technology (REF TEK) model 72A-07 (24-bit field digitizer)
72A-08	Refraction Technology (REF TEK) model 72A-08 (24-bit field digitizer)
ANSS-130	Refraction Technology (REF TEK) model 130-ANSS/02 (24-bit resolution field digitizer)
RT-130	Refraction Technology (REF TEK) model RT-130 (24-bit resolution field digitizer)
Q330	Quanterra, Inc Q330 digitizer (24-bit resolution field digitizer)
SMART-24	Geotech SMART-24 digitizer (24-bit resolution field digitizer)
PSN	PSN-ADC-SERIAL version III (16-bit resolution field digitizer)
Basalt	Kinematics Basalt (24-bit resolution field digitizer)
Taurus	Nanometrics Taurus (24-bit resolution field digitizer)
Centaur	Nanometrics Centaur (24-bit resolution field digitizer)

Telemetry	Description
Analog	Data transmission is analog along part of the transmission pathway
Digital	Data are converted to digital form at the station site
None	On-site recording system

Sponsor (or Operator for stations marked by * in preceding columns)

USGS	U.S. Geological Survey
Utah	State of Utah
ANSS	Advanced National Seismic System
INL	Idaho National Laboratory
MBMT	Montana Bureau of Mines and Geology
EarthScope	EarthScope Consortium
NSF	National Science Foundation

Network Changes During April 1–June 30, 2025

None